

### **REMARKS/ARGUMENTS**

Upon entry of the present amendment, claims 1-42 and 44-46 will be pending in the above-referenced patent application and are currently under examination. Claims 1 and 42 have been amended. Support for the amendments can be found throughout the specification. Support for the amendments to R<sup>2</sup>, R<sup>4</sup> and R<sup>4a</sup> of claim 1 can be found in claim 1 as originally filed, and in the specification at page 8, lines 3-7, as well as at page 6, line 22 to page 7, line 5, at page 15, line 5, at page 17, line 7 and at page 19, line 4. Support for the amendment to claim 42 can be found in claim 43 as originally filed. Claim 43 has been canceled. Thus, no new matter has been introduced by this amendment. Reconsideration of the application is respectfully requested.

The claims are rejected in various combinations under 35 U.S.C. § 102(b), 35 U.S.C. § 103(a), 35 U.S.C. § 112, first paragraph, and 35 U.S.C. § 112, second paragraph. Each of these rejections is addressed below in the order set forth by the Examiner.

#### **I. REJECTIONS UNDER 35 USC § 102(b)**

Claim 1 has been rejected under 35 USC § 102(b) as allegedly being anticipated by Montgomery *et al.* "Synthesis of Potential Anticancer Agents. XXVI. The Alkylation of 6-Chloropurine" 1961, 83, 630-635; Kelley *et al.* J. Med. Chem. 1990, 33, 1360-1363; Imbach *et al.* Bioorganic & Medicinal Chemistry Letters 1999, 9, 91-96; Basyouni *et al.* Egypt. J. Chem. 1999, 42(6), 587-598; US Patent No. 6,255,485 ("the '485 patent"); U.S. Patent Publication No. 2002/0016329 ("the '329 application"); and WO 00/71543 ("the '543 application"). Claim 4 has also been rejected under 35 USC § 102(b) as allegedly being anticipated by the '485 patent. Claim 11 has also been rejected under 35 USC § 102(b) as allegedly being anticipated by Kelley *et al.*, Imbach *et al.*, the '329 application and the '543 application. Claims 12-35 and 42-46 have also been rejected under 35 USC § 102(b) as allegedly being anticipated by the '329 application. Applicants respectfully traverse each of these rejections.

In order for a claim to be anticipated by a reference, the reference must teach every element of the claim (MPEP § 2131):

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicants respectfully note that in order to expedite prosecution, claim 1 has been amended, without prejudice, so that R<sup>6</sup> encompasses only those heterocycles having a nitrogen atom attached to the phenyl ring, or R<sup>6</sup> is combined with R<sup>5</sup>, when they are on adjacent ring atoms, to form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-”. As discussed below for each reference in turn, none of the references cited recite all the elements of any of the claims of instant application.

**A. Montgomery *et al.* does not anticipate claim 1**

The Examiner alleges that the disclosure in Montgomery *et al.* of “VId, corresponding to a chloro substituent in the R<sup>6</sup> position,” anticipates claim 1 of the instant application (*see*, Office Action, page 2). Applicants respectfully note that in view of the amendment to claim 1, R<sup>6</sup> does not encompass a chloro substituent, or any halo substituent. Therefore, Montgomery *et al.* does not incorporate all the limitations of the claims of the instant application and, thus, does not anticipate claim 1 of the instant application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §102(b).

**B. Kelley *et al.* does not anticipate claims 1 and 11**

The Examiner alleges that the disclosure in Kelley *et al.* of “II, and species 6, 9, 12, 14, 15, 21, 24 and 25, corresponds to R<sup>6</sup> as an alkyl, halo or dimethylamino,” anticipates claims 1 and 11 of the instant application (*see*, Office Action, page 2). Applicants respectfully note that in view of the amendment to claim 1, R<sup>6</sup> does not encompass an alkyl, halo or dimethylamino substituent. Furthermore, claim 11 of the instant application is a pharmaceutical

composition that contains compounds of claim 1. Therefore, Kelley *et al.* does not incorporate all the limitations of the claims of the instant application and, thus, does not anticipate claims 1 and 11 of the instant application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §102(b).

**C. Imbach *et al.* does not anticipate claims 1 and 11**

The Examiner alleges that the disclosure in Imbach *et al.* of “species 3, 5-8 and 11-15, corresponds to R<sup>6</sup> as chloro or fluoro,” anticipates claims 1 and 11 of the instant application (*see*, Office Action, page 2). Applicants respectfully note that in view of the amendment to claim 1, R<sup>6</sup> does not encompass a chloro or fluoro substituent. Furthermore, claim 11 of the instant application is a pharmaceutical composition that contains compounds of claim 1. Therefore, Imbach *et al.* does not incorporate all the limitations of the claims of the instant application and, thus, does not anticipate claims 1 and 11 of the instant application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §102(b).

**D. Basyouni *et al.* does not anticipate claim 1**

The Examiner alleges that the disclosure in Basyouni *et al.* of “2a, corresponding to a methyl substituent in the R<sup>6</sup> position,” anticipates claim 1 of the instant application (*see*, Office Action, page 2). Applicants respectfully note that in view of the amendment to claim 1, R<sup>6</sup> does not encompass a methyl substituent. Therefore, Basyouni *et al.* does not incorporate all the limitations of the claims of the instant application and, thus, does not anticipate claim 1 of the instant application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §102(b).

**E. The ‘485 patent does not anticipate claims 1 and 4**

The Examiner alleges that column 23 of the ‘485 patent (*i.e.*, the last and next to last structures depicted in Scheme 1) discloses a chloro substituent in the R<sup>6</sup> position, and

anticipates claims 1 and 4 of the instant application (*see*, Office Action, page 2, last sentence to page 3, first paragraph). Applicants respectfully note that in view of the amendment to claim 1, R<sup>6</sup> does not encompass a chloro substituent. As claim 4 is dependent on claim 1, claim 4 cannot be anticipated if claim 1 is not anticipated. Therefore, the '485 patent does not incorporate all the limitations of the claims of the instant application and, thus, does not anticipate claims 1 and 4 of the instant application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §102(b).

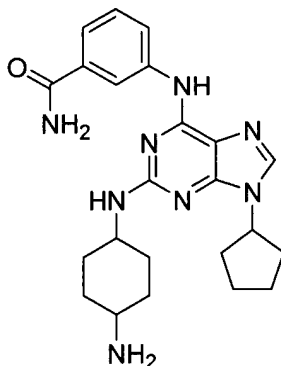
**F. The '329 application does not anticipate claims 1, 11-35 and 42-46**

The Examiner alleges that the '329 application contains disclosures corresponding to R<sup>6</sup> of Compound I as an alkyl substituted sulfonamide and concludes the '329 application anticipates claim 1 of the instant application. More particularly, the Examiner alleges that the "Formula I, paragraph [0005], wherein k is 2," "species at page 20, lines 7-8," and "claim 11, species 6-7" of the '329 application correspond to R<sup>6</sup> as an alkyl substituted sulfonamide and concludes that the '329 application anticipates claims 1, 11-35, and 42-46 of the instant application. Applicants respectfully note that in view of the amendment to claim 1, R<sup>6</sup> does not encompass an alkyl substituted sulfonamide substituent and, accordingly, the '329 application does not anticipate claim 1. Claims 11-35 and 42-46 include all of the elements of claim 1. Therefore, if claim 1 is not anticipated, neither are claims 11-35 and 42-46. Therefore, the '329 application does not incorporate all the limitations of the claims of the instant application and, thus, does not anticipate claims 1, 11-35 and 42-46 of the instant application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §102(b).

**G. The '543 application does not anticipate claims 1 and 11**

The Examiner alleges that the recitation of [d]ichlohydrate de trans-3-[[2-[(4-amino-cyclohexyl)-amino]-9-cyclopentyl-9H-purin-6-yl]-amino]-benzamide in example 108 of the '543 application, corresponds to R<sup>6</sup> as a sulfonamide, and anticipates claim 1 of the instant

application (*see*, Office Action, page 3). Applicants respectfully note that example 108 of the '543 application does not contain a sulfonamide, as noted by the Examiner, but rather an amide, as shown below:



Applicants respectfully note that claim 1 as filed, and the presently amended claim 1, do not recite R<sup>6</sup> as an amide substituent. Furthermore, claim 1 of the instant application does not recite a cyclohexyl group attached via a nitrogen at the 2 position of the purine ring. Claim 11 of the instant application is a pharmaceutical composition that contains compounds of claim 1, so if claim 1 is not anticipated, neither is claim 11. Therefore, the '543 application does not incorporate all the limitations of the claims of the instant application and, thus, does not anticipate claims 1 and 11 of the instant application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §102(b).

In view of the above, *all* of the rejections under 35 U.S.C. §102(b) are overcome.

## II. REJECTIONS UNDER 35 USC § 103(a)

Claim 4 has been rejected under 35 USC § 103(a) as allegedly being obvious in view of Imbach *et al.* or the '329 application. Claims 4 and 5 have also been rejected under 35 USC § 103(a) as allegedly being obvious in view of the '543 application. Applicants respectfully traverse each of these rejections.

A claim is considered obvious "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to

which said subject matter pertains” (35 USC § 103(a)). Several elements are necessary in order to make a prima facie case of obviousness (MPEP § 2143):

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

As discussed in detail below, the presently claimed invention is not obvious in view of the cited references because neither Imbach *et al.* nor the ‘329 application: (1) suggest the desirability of a compound comprising a heterocycle linked through a nitrogen in the R<sup>6</sup> position or a compound wherein R<sup>6</sup> in combination with R<sup>5</sup> form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-”; (2) teach that there is a reasonable expectation of success in making such a compound; or (3) teach or suggest all of the claim limitations.

**A. Claim 4 is not obvious in view of Imbach *et al.* or the ‘329 application**

The Examiner has alleged that the “species in Imbach *et al.* or the ‘329 application wherein R<sup>4</sup> is ethyl, renders obvious the isopropyl of claim 4 as a homolog” (*see*, Office Action, page 4). Applicants respectfully note that claim 1 has been amended so that R<sup>6</sup> encompasses only heterocycles having a nitrogen atom attached to the phenyl ring, or embodiments wherein R<sup>6</sup> is combined with R<sup>5</sup> when they are on adjacent ring atoms to form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-”. Claim 4 is dependent on claim 1 and, therefore, includes all of the elements of claim 1. Accordingly, in order for any reference to render claim 4 obvious, the reference must (1) suggest the desirability of a heterocycle linked through a nitrogen in the R<sup>6</sup> position or a combination with R<sup>5</sup> to form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-”; (2) teach that there is a reasonable expectation of success in making such a compound; *and* (3) must teach or suggest all of the elements of the compound.

As amended, claim 4 is directed to embodiments wherein (1) the R<sup>6</sup> position is a nitrogen linked heterocycle; or (2) R<sup>6</sup> is combined with R<sup>5</sup> to form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-”. Nowhere in Imbach *et al.* or the ‘329 application is: (1) a nitrogen linked heterocycle in the R<sup>6</sup> position; or (2) R<sup>6</sup> in a combination with R<sup>5</sup> to form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-” taught or suggested. More particularly, Imbach *et al.* suggests chloro, fluoro, cyano, methoxy and trifluoro-methyl for the R<sup>6</sup> position, but no nitrogen linked heterocycles for the R<sup>6</sup> position as disclosed and claimed in the instant application. In addition, the ‘329 application suggests sulfonyl and sulfonamide groups in the R<sup>6</sup> position, but no nitrogen linked heterocycles for the R<sup>6</sup> position as disclosed and claimed in the instant application. In addition, there is no suggestion to modify Imbach *et al.* or the ‘329 application, nor is there a reasonable expectation of success provided in Imbach *et al.* of making either a compound with R<sup>6</sup> having a nitrogen linked heterocycle or a compound wherein R<sup>6</sup> in combination with R<sup>5</sup> to form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-”. Therefore, claim 4 is not obvious in view of Imbach *et al.* or the ‘329 application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §103.

**B. Claims 4-5 are not obvious in view of the ‘543 application**

The Examiner has alleged that example 108 in the ‘543 application wherein R<sup>4</sup> is cyclopentyl, renders obvious the cyclohexyl group of claims 4-5 as a homolog. However, example 108 does not teach the claim element of a nitrogen linked heterocycle in the R<sup>6</sup> position or R<sup>6</sup> in combination with R<sup>5</sup> to form “-O-(CH<sub>2</sub>)<sub>1-2</sub>-O-”. In addition, claim 1 of the instant application does not recite an amide in the R<sup>6</sup> position, as is suggested by the ‘543 application. Nor does claim 1 of the instant application recite a cyclohexyl group attached via a nitrogen at the 2 position of the purine ring. Furthermore, there is no motivation to modify the disclosure of the ‘543 application to make the compounds of the present application, nor is there any reasonable expectation of success provided in the ‘543 application. Therefore, claims 4-5 are not obvious in view of the ‘543 application. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §103.

### **III. REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

Claims 1-9, 11-35 and 42-46 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Applicants respectfully traverse the rejection in view of the comments below.

**1. Commas are used to provide clarity.**

The Examiner has requested that the commas be removed from the formula, such as in "N(A, B)." Applicants respectfully note that it is common practice in the preparation of complex radicals to use the comma in order to avoid confusion on the part of the reader, *i.e.*, to provide clarity. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. § 112, second paragraph. Alternatively, Applicants invite the Examiner to suggest an alternative to the comma that would maintain the clarity provided by the comma.

**2. The term "heterocycle" is clear to one of skill in the art.**

The Examiner has alleged that the term "heterocycle" is indefinite as used in R<sup>3</sup>. The terms of the claims are interpreted in view of the specification when a definition is provided (MPEP § 2111.01). The definition provided in paragraph [0025] of the instant application provides several examples of what is meant by the term "heterocycle": 1 (1,2,5,6-tetrahydropyridyl), 1-piperidinyl, 2-piperidinyl, 3-piperidinyl, 4-morpholinyl, 3-morpholinyl, tetrahydrofuran-2-yl, tetrahydrofuran-3-yl, tetrahydrothien-2-yl, tetrahydrothien-3-yl, 1 -piperazinyl, 2-piperazinyl, and the like. Applicants respectfully submit that one of skill in the art will appreciate the scope of the term "heterocycle" given the definition in the specification. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection.



**3. Backwards terms have been amended.**

The Examiner alleges that some terms have been written backwards, including “alkylhalo”, “alkylhydroxy”, “alkylaryl” and “alkylheterocycle”. Applicants note that in order to expedite prosecution, the claims have been amended to delete the recitation of the term “alkylhalo”, and the remaining terms have been amended according to the Examiner’s suggestion (*see*, R<sup>2</sup> and R<sup>4</sup> of claim 1). Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §112, second paragraph.

**4. There is sufficient support in claim 1 for R<sup>4a</sup> = cycloalkyl.**

The Examiner alleges that the last substituent in R<sup>4</sup> in claim 8 and the next to last species in claim 9 are in error, as R<sup>4a</sup> is allegedly not permitted to be cycloalkyl. Applicants note that claim 1 has been amended so that R<sup>4a</sup> includes the recitation “C<sub>3-8</sub>cycloalkyl”. This amendment finds support in claims 8 and 9 as originally filed, as well as in the specification at page 15, line 5, at page 17, line 7 and at page 19, line 4. As there is adequate support for R<sup>4a</sup> of claim 1 to be a cycloalkyl group, there is sufficient support for the last R<sup>4</sup> choice of claim 8 and the next to last species in claim 9. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §112, second paragraph.

**5. There is sufficient support in claim 1 for R<sup>4a</sup> = aryloxy.**

The Examiner alleges that the third substituent in R<sup>4</sup> of claim 8 is in error, as R<sup>4a</sup> is allegedly not permitted to be phenoxy, an aryloxy group. Applicants note that R<sup>4a</sup> of claim 1 has been amended to include “aryl-C<sub>0-2</sub>alkyl” which can be aryloxy. This amendment finds support in claim 8 as filed, as well as in the specification at page 8, lines 1-7, where the definition of “arylalkyl” includes the aryloxy group phenoxy:

those radicals in which an aryl group is attached to an alkyl group (e.g., benzyl, phenethyl, pyridylmethyl and the like) including those alkyl groups in which **a carbon atom (e.g., a methylene group) has been replaced by, for example, an oxygen atom** (e.g., **phenoxymethyl**, 2-pyridyloxymethyl, 3-(1-naphthyloxy)propyl, and the like). (emphasis added)

Additional support can be found at page 17, line 7. As there is adequate support for R<sup>4a</sup> of claim 1 to be an aryloxy group, there is sufficient support for the third choice in R<sup>4</sup> of claim 8. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §112, second paragraph.

**6. There is sufficient support in claim 1 for R<sup>4</sup> = aryl-C<sub>0-3</sub>alkyl.**

The Examiner alleges that the next to last substituent in R<sup>4</sup> of claim 8 and the 6th to last substituent in claim 9 are in error, as R<sup>4</sup> of claim 1 is allegedly not permitted to be a three-carbon chain linking the aryl group to the nitrogen. Applicants respectfully note that R<sup>4</sup> of claim 1 has been amended to include "aryl-C<sub>0-3</sub>alkyl". This amendment finds support in claims 4 and 8-9 as filed, as well as in the specification at page 8, lines 1-7, where the definition of "arylalkyl" includes propyl groups:

those radicals in which an aryl group is attached to an alkyl group (e.g., benzyl, phenethyl, pyridylmethyl and the like) including those alkyl groups in which a carbon atom (e.g., a methylene group) has been replaced by, for example, an oxygen atom (e.g., phenoxymethyl, 2-pyridyloxymethyl, 3-(1-naphthyloxy)**propyl**, and the like). (emphasis added)

Additional support can be found at page 16, lines 6-9, at page 17, line 7, at page 18, line 3 and at page 19, line 1. As there is adequate support for R<sup>4</sup> of claim 1 to be an aryl-C<sub>0-3</sub>alkyl group, there is sufficient support for the next to last substituent in R<sup>4</sup> of claim 8 and the 6th to last substituent in claim 9. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §112, second paragraph.

**7. The definition of "alkyl" is clear to one of skill in the art.**

The Examiner alleges that the definition of "alkyl" provided in the specification is not the usual meaning of the term. As the examiner notes, the definition of "alkyl" in the specification does allow for the incorporation of unsaturated and cyclic moieties. Applicants respectfully submit that the incorporation of unsaturated and cyclic moieties is not repugnant to the usual meaning of the term alkyl.

As set forth in MPEP § 2111.01, an applicant can be their own lexicographer.

MPEP § 2111.01 further states that:

Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." *Multi-form Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). (emphasis added)

While it is possible to define separately alkenyl and alkynyl moieties, Applicants have chosen to incorporate alkenyl and alkynyl as well as cycloalkyl moieties into the definition of "alkyl", as is allowed under MPEP § 2111.01. In order to guide the reader of the application, a person having ordinary skill in the art, Applicants have provided a non-limiting list of exemplary alkyl groups that incorporate such unsaturated and cyclic moieties (page 5, lines 4-9).

Applicants respectfully submit that the recitation of a non-limiting exemplary list of unsaturated and saturated alkyl groups provides sufficient indication to one of skill in the art what is intended by the term "alkyl." Furthermore, Applicants respectfully submit that provided with a teaching of mono- and di-unsaturated alkyls, one of skill in the art would recognize that aryl groups, such as phenyl, do not fall within the scope of "alkyl," as the Examiner alleges. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection.

**8. Definitions of "aryl" and "heteroaryl" are clear to one of skill in the art.**

The Examiner alleges that the definitions of "aryl" and "heteroaryl" provided in the specification are not the usual meanings of those terms. Provided with the non-limiting list of exemplary aryl and heteroaryl compounds of the present invention (page 7, lines 26-32), one of skill in the art will recognize the types of aryl and heteroaryl ring systems useful in the present invention. As all the exemplary compounds listed on page 7, lines 26-32 are in fact aromatic, Applicants respectfully submit that one of skill in the art would recognize that non-aromatic compounds, such as cyclooctadiene and dihydropyridine, are not covered by the terms aryl and

heteroaryl, as alleged by the Examiner. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §112, second paragraph.

#### **IV. REJECTIONS UNDER 35 USC § 112, FIRST PARAGRAPH**

Claims 8-9, 42 and 45-46 have been rejected under 35 USC § 112, first paragraph, as allegedly failing to comply with the enablement requirement. Applicants respectfully traverse the rejection. The test for enablement is whether the experimentation needed to practice the invention is undue or unreasonable (*Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916)) such that “the disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention” (MPEP § 2164.01).

##### **A. Claims 8-9 are enabled**

The Examiner alleges that the specification fails to provide support for the third substituent and last two substituents in claim 8, as well as the 6th to last substituent in claim 9. As discussed above, claim 1 has been amended to encompass the substituents and compounds at issue in claims 8 and 9. In addition, these amendments find support throughout the specification (*see*, IV, 4-6 above). In view of the amendments to claim 1, and the support found in the specification, Applicants respectfully submit that the third substituent and last two substituents in claim 8, as well as the 6th to last substituent in claim 9 are enabled. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §112, first paragraph.

##### **B. The scope of bone disorders is enabled**

The Examiner alleges that the scope of bone disorders in claims 42 and 45-46 is generally not enabled. In order to expedite prosecution of the present case, Applicants respectfully note that claim 42 has been amended to incorporate the limitation of dependent claim 43, “wherein the bone disorder is associated with defective osteoblasts.” As claim 43 is

Appl. No. 10/687,220  
Amdt. dated May 5, 2005  
Reply to Office Action of December 17, 2004

not subject to the enablement rejection, amended claim 42, and dependent claims 45-46, are enabled. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection under 35 U.S.C. §112, first paragraph.

#### **V. OBJECTIONS TO CLAIMS 10 AND 36-41**

Claims 10 and 36-41 have been objected to as being dependent on a rejected base claim. Applicants thank the Examiner for noting that claims 10 and 36-41 would be allowable if rewritten in independent form incorporating all the limitations of the base claim and any intervening claims. In view of the amendments to claim 1, Applicants respectfully submit that claim 1 is now in condition for allowance, as well as claims 2-42 and 44-46.

#### **CONCLUSION**

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 415-576-0200.

Respectfully submitted,



Carol A. Fang  
Reg. No. 48,631

TOWNSEND and TOWNSEND and CREW LLP  
Two Embarcadero Center, Eighth Floor  
San Francisco, California 94111-3834  
Tel: 415-576-0200  
Fax: 415-576-0300

CAF:art  
60459900 v1

Appl. No. 10/687,220  
Amdt. dated May 5, 2005  
Reply to Office Action of December 17, 2004

**Amendments to the Drawings:**

The attached two sheets of drawings include changes to Figs. 4 and 5. These sheets replace the original sheets including Figs. 4 and 5.

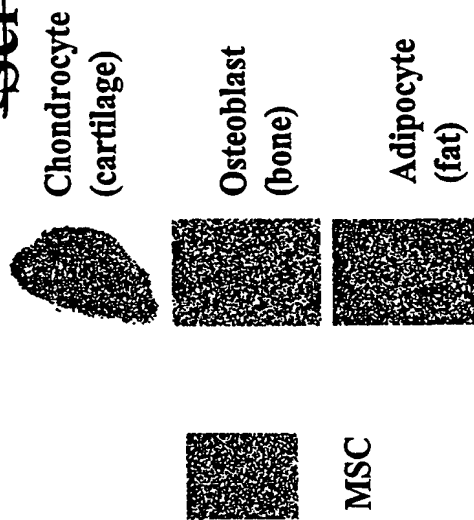
Attachment A: Replacement Sheets

Attachment B: Annotated Sheet Showing Changes

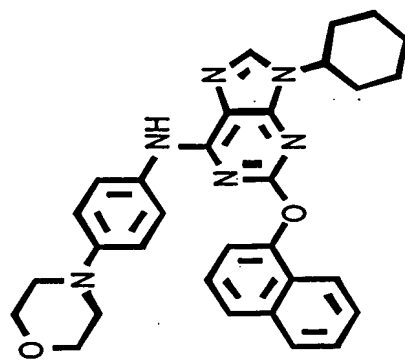
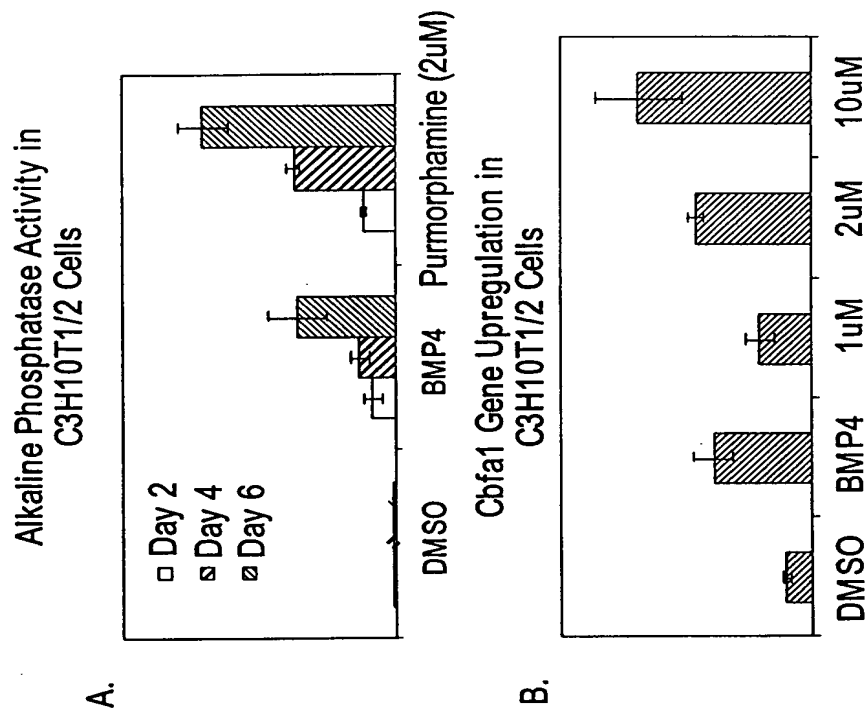


# Discovery of a Small Molecule with Osteogenesis Activity in Mesenchymal Progenitor Cells by High-throughput

## Screening (HTS)



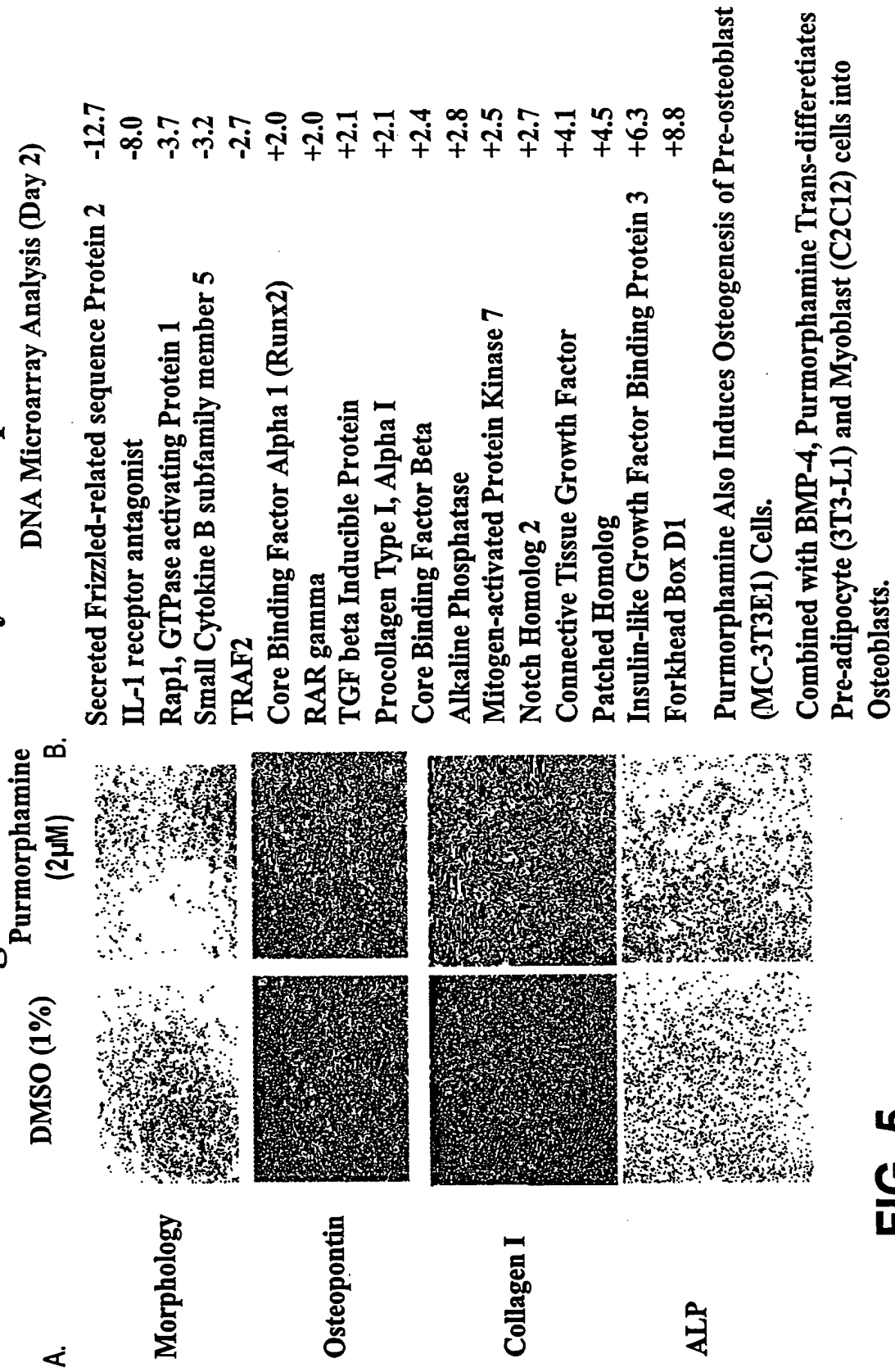
4/5



Purmorphamine

FIG. 4

# ~~Morphological and Transcriptional Analysis~~ ~~of Osteogenesis Induced by Purmorphamine~~



**FIG. 5**